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BUREAU OF MINES MINERALS YEARBOOK

The Mineral Industry of Vermont



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UNITED STATES DEPARTMENT OF THE INTERIOR • Manuel J. Lujan, Jr., Secretary

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This publication is a chapter from the current Bureau of Mines Minerals Yearbook, comprising *Volume I, Metals and Minerals*; *Volume II, Area Reports: Domestic*; *Volume III, Area Reports: International*. The separate volumes of the Yearbook are sold by the Superintendent of Documents, Washington, D.C. 20402.

The Mineral Industry of Vermont

This chapter has been prepared under a Memorandum of Understanding between the Bureau of Mines, U.S. Department of the Interior, and the Office of the State Geologist, Agency of Environmental Conservation, for collecting information on all nonfuel minerals.

By Donald K. Harrison¹ and Charles A. Ratté²

The value of nonfuel mineral production in 1987 was \$72.4 million, a \$17.2 million increase over that of 1986. The increased value was attributed primarily to greater demand for sand and gravel and stone used in highway construction, and increased demand for specific types of stone for building construction. In 1987, highway contracts

in the State increased to \$55.3 million from \$36.9 million in 1986. The value of construction contracts of residential and nonresidential units also remained relatively strong in 1987. Nationally, the State ranked second in asbestos and talc production and third in the quantity of dimension stone produced.

Table 1.—Nonfuel mineral production in Vermont¹

Mineral	1985		1986		1987	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Gem stones.....	NA	W	NA	W	NA	\$10
Sand and gravel (construction) thousand short tons.....	^e 2,700	^e \$7,000	4,834	\$11,226	^e 4,700	^e 10,800
Stone:						
Crushed.....do.....	1,689	7,468	^e 1,600	^e 7,600	² 2,159	² 20,400
Dimension.....do.....	116	26,346	^e 105	^e 27,075	104	30,074
Combined value of asbestos, stone (crushed granite, 1987), talc, and values indicated by symbol W.....	XX	9,040	XX	9,310	XX	11,160
Total.....	XX	49,854	XX	55,211	XX	72,444

^eEstimated. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" figure. XX Not applicable.

¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

²Excludes certain stones; kind and value included with "Combined value" data.

Table 2.—Nonfuel minerals produced in Vermont in 1986, by county¹

County	Minerals produced in order of value
Addison	Sand and gravel (construction)
Bennington	Do.
Caledonia	Do.
Chittenden	Do.
Essex	Do.
Franklin	Do.
Lamoille	Do.
Orange	Do.
Orleans	Asbestos, sand and gravel (construction)
Rutland	Sand and gravel (construction)
Washington	Do.
Windham	Talc, sand and gravel (construction)
Windsor	Do.
Undistributed ²	Stone, gem stones.

¹No production of nonfuel mineral commodities was reported for counties not listed.

²Data not available by county for minerals listed.

Legislation and Government Programs.—Act No. 67 (H. 339), which became effective in July, provided for the designation of certain river segments as Outstanding Resource Waters. The most controversial section of the new law addressed gravel removal from streams. The law prohibited gravel removal from a watercourse if the gravel was for construction or sale. However, a riparian owner who has certain use

rights on a stream may without a permit remove up to 50 cubic yards of gravel per year above the water line for personal use on his or her own property.

Acid rain and toxic waste disposal were critical environmental concerns in the State. In the case of acid rain, Vermont filed a fifth lawsuit against the Environmental Protection Agency (EPA), charging that the Federal Government failed to act on a State plan to reduce the impact of acid rain pollution. The lawsuit centered on a State effort to reduce acid rain by linking it to air pollution that reduces visibility at the Lye Brooke wilderness area near Manchester. Under Federal law, States are required to draft a State implementation plan to improve visibility in Federal wilderness areas. The Vermont plan, submitted to the EPA in 1986, argued that in order to clean up the air at Lye Brooke, the EPA must first act to reduce the air pollution from midwestern coal plants, the source of the poor visibility.

In 1987, more than 80 hazardous waste sites containing toxic chemicals in Vermont were awaiting cleanup. Two of the sites were on the list of places eligible for Federal Superfund money and six other sites were proposed for the Federal program.

REVIEW BY NONFUEL MINERAL COMMODITIES

INDUSTRIAL MINERALS

Asbestos.—Vermont Asbestos Group Inc., one of two active asbestos companies in the United States, operated two open pit mines and a dry-processing mill near Lowell, Orleans County. The Lowell Mine and mill operated only intermittently during the year; 70 miners worked one 8-hour shift only 6 months of the year. This is in contrast to 1975 when 200 miners worked three 8-hour shifts year-round. The company produced 15 different asbestos fiber products for manufacturing clutches, brake components, and diaphragms for chlorine production. Because most foreign countries have not banned the use of asbestos products, about one-half of the asbestos produced was exported, primarily to countries in South America and the Far East.

Shipments of asbestos declined in 1987, the result of continuing adverse publicity on asbestos-related health risks and a proposed EPA ban phaseout of certain asbestos-containing products. In addition, the Office of Safety and Health Adminis-

tration (OSHA) extended through July 21, 1988, an administrative stay on its 1986 regulation governing worker exposure to the nonasbestiform varieties of tremolite, anthophyllite, and actinolite. During the stay, OSHA continued to analyze the impact of using the asbestos standard to regulate the nonasbestiform varieties of the minerals.³

Sand and Gravel (Construction).—Construction sand and gravel production is surveyed by the U.S. Bureau of Mines for even-numbered years only. This chapter contains estimates for 1985 and 1987 and actual data for 1986. Data for odd-numbered years are based on annual company estimates.

Based on these estimates, output and value of construction sand and gravel decreased 3% and 4%, respectively. Approximately 60 companies mined construction sand and gravel from 79 operations in all the State's counties. Leading counties in descending order of output were Chittenden, Rutland, Lamoille, and Bennington. Main uses were for road base and coverings,

concrete aggregate, and fill.

Stone.—Stone production is surveyed by the U.S. Bureau of Mines for odd-numbered years only. This chapter contains actual data for 1985 and 1987 and estimates for 1986. Data for even-numbered years are based on annual company estimates.

Crushed.—Although production increased nearly 35% in 1987, value rose 168% over that of 1986. The anomalous rise in value was the result of reported marble

production by Pleuse-Stauffer Inc.'s Verpol plant in Rutland County, which had a much higher unit price value than most of the other companies that produced crushed stone. Prior to 1987, the company had not reported production from the Verpol plant.

Limestone was the primary rock quarried in the State, followed by granite and marble. Major uses were for bituminous concrete, fill, and road base aggregate.

Table 3.—Vermont: Crushed stone¹ sold or used by producers in 1987, by use

(Thousand short tons and thousand dollars)

Use	Quantity	Value
Coarse and fine aggregates: Other construction ²	494	876
Other unspecified ³	1,665	19,525
Total	2,159	*20,400

¹Includes limestone and marble; excludes granite to avoid disclosing company proprietary data.

²Includes graded road base or subbase.

³Includes other fillers or extenders; production reported without a breakdown by end use, and estimates for nonrespondents.

*Data do not add to total shown because of independent rounding.

Dimension.—Dimension stone, the State's leading mineral commodity in terms of value, was produced by 14 companies at 19 operations. Nationally, the State ranked third in output but first in value. Types of rocks quarried, in descending order of output, were granite, slate, and marble.

In May, a new 3-year contract covering 1,100 central Vermont granite workers was ratified, averting a possible strike. The contract covers union members of the Barre Granite Cutters, the Granite Manufacturers Association, and the United Steel Workers of America. The workers were employed at quarries and fabricating plants in the so-called "Barre Belt" in the towns of Barre City, Barre Town, Montpelier, Northfield, South Ryegate, and Chelsea.

Talc.—Nationally, Vermont ranked second in talc production, up from third place in 1986. Three companies mined talc at five operations in the State. Both production

and value of talc increased over 1986. Primary uses for the talc were as a filler-extender in cosmetics, building materials, and plastics.

Early in the year, Vermont Talc Co., a subsidiary of OMYA Inc., received the necessary environmental permits to begin operating a new talc mine in Troy. The company began groundbreaking work in early spring. By yearend, it was producing ore from the deposit to be shipped to the recently modified Johnson talc mill about 25 miles from Troy. Vermont Talc had been shipping ore from its mines in Windham, approximately 140-miles from the Johnson mill.

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³Federal Register, Occupational Safety and Health Administration, Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite. V. 52, No. 83, Apr. 30, 1987, pp. 15722-15723.

Table 4.—Principal producers

Commodity and company	Address	Type of activity	County
Asbestos:			
Vermont Asbestos Group Inc.	Box 548 Morrisville, VT 05661	Pit	Orleans
Sand and gravel (construction):			
Ormond Bushey & Sons Inc.	Box 183 Fairfax, VT 05454	Pits	Chittenden and Franklin
Calkins Sand & Gravel Inc.	Box 82 Lyndonville, VT 05851	Pits and plant	Caledonia and Orleans
Joseph P. Carrara & Sons Inc.	Route 116 Middlebury, VT 05753	Pits	Addison and Rutland
William E. Daily Inc.	Route 1, Box 51 Shaftsbury, VT 05262	do	Bennington
Hinesburg Sand & Gravel Co.	Box 200 Hinesburg, VT 05461	do	Chittenden
Frank W. Whitcomb Construction Corp. .	Box 429 Bellows Falls, VT 05101	Pit and plant	Rutland
Stone:			
Crushed:			
Cooley Asphalt Paving Corp.	Box 542 Barre, VT 05641	Quarry	Washington
Pike Industries Inc.	Route 3, Box 91 Tilton, NH 03276	do	Caledonia
Frank W. Whitcomb Construction Corp.	Box 29 Bellows Falls, VT 05101	Quarries	Chittenden
White Pigment Corp.	Florence, VT 06744	do	Addison and Rutland
Dimension:			
OMYA Inc.	61 Main St. Proctor, VT 05765	Quarry and plant	Rutland and Windsor
Rock of Ages Corp., a subsidiary of John Swenson Granite Co. Inc.	Box 482 Barre, VT 05641	Quarries	Washington and Windsor
John Swenson Granite Co. Inc.	North State St. Concord, NH 03301	Quarry	Washington
Talc:			
Vermont Talc Co., a subsidiary of OMYA Inc.	Route 11, Box 117 Chester, VT 05143	Mine and mill	Windham
Windsor Minerals Inc.	Box 680 Windsor, VT 05089	Mines and mill	Windsor